

Property, possession and natural resource management: towards a conceptual clarification

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Abstract: There are few concepts that are more central to natural resource management than those of property and property rights. Given their importance, it might be expected that there would be some consensus in the economic literature about what property and property rights *are*. However, no such consensus seems to exist. In fact, different authors use the same terms to denote quite disparate concepts and ideas, impeding rather than advancing progress in understanding natural resource management. As but one example, there is hardly a concept that has been as fundamentally misunderstood as that of the commons. That misunderstanding notwithstanding, there is another, less familiar, more common and even more fundamental one: the persistent confusion of possession with property. This article argues that the distinction between possession and property is of particular importance for comprehending the meaning of institutional shifts from one resource management regime to another. It therefore reviews concepts central to natural resource management, by distinguishing between state, private, common property and possession on the one hand and open access on the other.

1. Introduction

There are few concepts and ideas in economics that are more central than those of property and property rights. Given their importance, it might be expected that there would be some consensus in the economic literature about what property and property rights *are*. However, no such consensus seems to exist (Cole and Grossman, 2002: 317). In fact, different authors use the same terms to denote quite disparate concepts and ideas, impeding rather than advancing progress in understanding natural resource management. As but one example, there is hardly a concept or idea that has been as fundamentally misunderstood as that of the commons (Bromley, 1991: 1, 2). Much of that confusion can be traced back to

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This paper pays homage to, and builds upon, the work of Rolf Steppacher; in so doing, it passes on in a written form some elements of his work on an integrated paradigm in heterodox economics to a wider audience. The author thanks Antonio Girardi, Pascal van Griethuysen, Roy Brouwer and three anonymous referees for their valuable comments and suggestions. The Swiss National Centre of Competence in Research (NCCR) North-South is also gratefully acknowledged.

Hardin's allegory of 'the tragedy of the commons' (Hardin, 1993 [1968]), which, for some time, has had remarkable currency among scholars and policy makers.

This misunderstanding notwithstanding, there is another less familiar, more common and even more fundamental one: the persistent confusion of possession with property (Hodgson, 2009: 155–156). Founding their 'property theory of interest and money' on this distinction, Heinsohn and Steiger reveal that, when addressing the physical use of goods and resources and the returns thereon, most economic scholars apply the term of property when dealing with possession only (Heinsohn and Steiger, 1996, 2000). Analysing four major schools of economic thought: classical economics, neoclassical economics, Keynesianism, in particular Monetary Keynesianism, and new institutional economics from the viewpoint of the core of their theory – the distinction between property (a category of Roman Law) and possession (a concept in Germanic Law) (Nutzinger, 2008: 64) – Heinsohn and Steiger conclude that, by confusing property with possession, the four schools fail to comprehend the formative economic role of property (Heinsohn and Steiger, 2000: 71–82, 2007: 65–73, 2008: 206–218; Steiger, 2006: 191–197, 2008: 261–271).¹

According to the authors, possession refers to a bundle of material rights (and duties) regarding the physical use of goods and resources. Property, in contrast, includes both a bundle of material rights (and duties), i.e. possession rights (and duties), and a bundle of immaterial rights (and duties), i.e. property rights (and duties) regarding the non-physical use of goods and resources. Property rights thus exist in addition to possession rights and include the right to burden and encumber property titles (Heinsohn and Steiger, 1996, 2000). Indeed, it is this particular aspect of property, that is, the immaterial economic potential contained in the security of legal property titles to enter into credit relations, 'that has traditionally been neglected in mainstream economics,'² despite the fact that it is one of the founding elements of capitalism' (Steppacher, 2008: 324).

The two examples given here reveal the need to clarify concepts and ideas central to natural resource management. To some extent, then, this article necessarily involves the meaning of concepts such as possession and property. In this spirit, the second section conceptualizes property as a 'primary' social

1 For concrete examples addressing the confusion of property with possession in different schools of economic thought, including classical economics, neoclassical economics, Keynesianism, in particular Monetary Keynesianism, and new institutional economics, please refer to Heinsohn and Steiger (2000: 71–82, 2007: 65–73, 2008: 206–218) as well as Steiger (2006: 191–197, 2008: 261–271). For specific examples in the economic literature demonstrating how the definition of property rights diverges from the conventional legal understanding, including Yoram Barzel on 'Legal' and 'Economic' Rights, Paul Heyne on 'Legal' and 'Actual' Rights, James Buchanan and Gordon Tullock on the 'Right' to Pollute, and John Umbeck's Capability-Based Property Rights, please refer to Cole and Grossmann (2002: 322–328).

2 'Thinking of mainstream economics, [Steppacher] do[es] not only have classical, neoclassical and monetary Keynesian economics (Heinsohn and Steiger, 1996) on [his] mind, but also new institutional economics (Steiger, 2006), development economics (de Soto, 1989 [1986], 2000), and even environmental economics' (Steppacher, 2008: 323).

institution (Ciriacy-Wantrup and Bishop, 1985), by arguing that property is not a physical object but rather defines a triadic social relation (Bromley, 1989). The third section presents the core differentiation between possession and property (Heinsohn and Steiger, 1996, 2000), by revealing some economic and social implications regarding the introduction of property into merely possession-based societies (or sectors). The fourth section deals with different natural resource management regimes, by distinguishing between state, common and private possession regimes as well as open access (Bromley, 1991). The fifth section then makes use of the distinction between possession and property on the one hand and the differentiation between state, common and private possession regimes on the other, teasing out the meaning of institutional shifts from one regime to another (e.g. privatization). The final section then concludes the article.

2. Property as a triadic social relation

Undoubtedly, the whole history of economic thought addressed the issue of property. Nevertheless, institutional and ecological economics provide valuable insights into the very essence of property as a ‘primary’ social institution (Ciriacy-Wantrup and Bishop, 1985: 26). Institutions are seen here as the formal and informal ‘working rules’ (Commons, 1995 [1924]: 6) of a group or a society that both liberate and constrain human behaviours (Hodgson, 2006: 2). In defining what is socially acceptable and what is not, that is, what individuals and groups may, can, cannot and must or must not do (Commons, 1995 [1924]: 6) they establish mutual expectations among individuals and groups in dealing with each other (Bromley, 1989: 44). Indeed, they are the source of rights, duties, liberties and exposures (Commons, 1995 [1924]: 6), determining the relation of individuals and groups among each other.

Ciriacy-Wantrup and Bishop define property as a ‘primary’ social institution both because of its own importance and because several important ‘secondary’ institutions such as credits and markets (Heinsohn and Steiger, 1996, 2000) are derived from it (Ciriacy-Wantrup and Bishop, 1985: 26). Accordingly, property is not a physical object but rather defines a triadic relation between persons with regard to something of value (Bromley, 1991). The triad emphasizes the fact that property describes not a relation between a person and something of value, but rather a relation of one person to another with respect to something of value. It thus underlines that property is primarily a social and not an individual relation involving right holders, duty bearers and something of value: the benefit stream (Bromley, 1991; Hallowell, 1943).

However, as pointed out by Hallowell (1943: 130), ‘property, considered as a social institution, not only implies the exercise of rights and duties with respect to objects of value by the individuals of a given society; it also embraces the specific social sanctions which reinforce the behaviour that makes the institution a going concern.’ Property considered as a ‘primary social institution’ thus involves a

minimum of three parties to constitute a social relation of rights and duties – ‘two inferiors and one superior’ (Commons, 1995 [1924]: 87). It follows that rights are only secure as long as there is a superior authority that agrees to protect those rights by enforcing all others to comply with duties. In other words, ‘a legally enforceable right presumes a corresponding legally enforceable duty’ (Cole and Grossman, 2002: 318). If the authority – for whatever reason – is unwilling or unable to ensure that compliance with duty, then rights are meaning less (Bromley, 1991: 22) or ‘formal statements of ideals, wishes and hopes that may or may not be realized’ (Commons, 1995 [1924]: 123).

Combining both interpretations of a triad: one involving a right holder, a duty bearer and a benefit stream, and another comprehending a right holder, a duty bearer and a superior authority, the next section will show that property is a potential to two benefit streams: an immaterial benefit stream, called property premium (Heinsohn and Steiger, 1996, 2000: 67)³ or immaterial economic potential and a material benefit stream also referred to as material economic potential (Steppacher, 2008: 327). A property right, in turn, is a *de jure* claim on both benefit streams that a superior authority will agree to protect through the assignment of duty to others who may covet, or somehow interfere with either the immaterial, or the material, or both benefit streams. When a claim on both benefit streams exists, that is, when there is an expectation that a superior authority will protect and enforce that right against all others,⁴ then there is property. However, when only a claim on the material benefit stream exists (that a superior authority will protect and enforce), but no claim on the immaterial benefit stream, then there is no property, there is only possession. Finally, when there is neither a claim on the immaterial benefit stream, nor a claim on the material benefit stream (that a superior authority will protect and enforce), then there is no property and no possession; there is only open access.

3. Possession and property

Possession is ‘understood as the core institution of non-capitalist societies (or of possession-based sectors within capitalist societies)’ (Steppacher, 2008: 326). Possession refers to a bundle of rights and correlated duties regarding the physical use of goods and resources and the returns thereon, including the right

3 According to Heinsohn and Steiger, property premium ‘is a non-physical yield of security which accrues from property as long as it is unencumbered and not economically activated. The premium allows proprietors to enter credit contracts, and is a measure of the potential of individuals to become creditors and debtors’ (Heinsohn and Steiger, 2000: 82). For further explanation on this subject, please refer to Heinsohn and Steiger (1996, 2000).

4 As opposed to contract rights that apply against one or several determinate persons only (rights *in personam*), property rights apply against a wide and indefinite class of persons (rights *in rem*) (Hohfeld, 1917). In other words, property rights are *de jure* claims against all others that a superior authority will agree to enforce through the assignment of duties to others.

to change their substance and form, as well as the right to their alienation. Alienation here does not imply the right to sale or lease, but only the right to exchange goods and resources in the form of gifts, assignments or – occasionally – inheritance. (Heinsohn and Steiger, 2006; Steiger, 2006: 186). Possession rights thus define ‘who, in what manner, at what time and place, to what extent, and by exclusion of whom, may physically use goods and resources and change their substance and form’ (Heinsohn and Steiger, 2006; Steiger, 2006: 186) and therefore apply to what scholars of the theory of property rights (or new institutional economics) and of common property conceptualize in terms of property rights. Referring to possession rights, Steppacher notes, ‘rules about these questions exist in all societies, whether tribal, feudal, capitalist, socialist or whatever the future may offer. In this sense, institutions of possession respond to an [eternal], universal question: they determine how to actualize a universal [material economic] potential’ (Steppacher, 2008: 327), namely to physically use goods and resources. Needless to say, the answers given to that question and the chosen forms of that actualization are culture-specific and exhibit great diversity and variety (Steppacher, 2008: 327).

In line with Heinsohn and Steiger (2006) and Steppacher (2008), Bhalla (1992: 81–84) maintains that

possession, whether at a primitive level or as a legal category, implies *de facto* control of a thing. (...) Whether a legal system exists or not possession is essential for human existence; it is pre-legal, extra-legal and external and independent of law. (...) If different rules have been developed to deal with possession, it is because of the different situations in which possession is found. (...) As surrounding circumstances vary, different conceptions of possession come into being, and the concept of possession becomes relative to the situation in which it is found.

Property, in contrast, is ‘understood as the core institution of capitalist societies (or of property-based sectors within non-capitalist societies)’ (Steppacher, 2008: 326). Unlike possession, property is not an eternal, universal institution (Heinsohn and Steiger, 1996, 2000). It is brought about by a legal act (i.e. discontinuous institutional change) that transforms *de facto* possession into *de jure* possession, and adds a bundle of immaterial *de jure* property rights (and duties) in this process (Steiger, 2006).⁵ As soon as property is created – *ex nihilo* – it carries a second economic potential: the immaterial economic potential (called property premium by Heinsohn and Steiger, 1996, 2000) contained in the security of legal property titles to enter into credit relations both as a creditor and as a debtor (Steppacher, 2008: 327). Accordingly ‘property rights are *de jure* claims. They entitle their holders to immaterial (non-physical) capacities which

⁵ Like property, possession can be brought about by a legal act that transforms *de facto* possession into *de jure* possession. Unlike property, however, *de jure* possession does not entitle possession-rights holders to engage possession titles as collateral in credit relations.

first constitute economic activities: (i) to burden property titles in issuing money against interest; (ii) to encumber these titles as collateral for obtaining money as capital; (iii) to alienate or exchange including sale and lease, and (iv) to enforce' by independent law⁶ (Heinsohn and Steiger, 2006; Steiger, 2006: 186).

There can be no doubt that the immaterial economic potential embodied in the institution of property does not derive from the physical use of goods and resources, but from the addition of *de jure* property titles to *de facto* possession rights (Heinsohn and Steiger, 2000: 81). Unlike possession, property thus embodies both a bundle of possession rights (and duties) and a bundle of property rights (and duties) entitling property-rights holder not only to the physical use but also to the non-physical use of goods and resources. It is this immaterial economic potential contained in the security of legal property titles that has traditionally been neglected in mainstream economics and that makes property – on the condition that property is titled, registered, protected and enforced – the core institution of capitalist societies (Steppacher, 2008: 328).⁷

Property and economic rationality

The exercise of property rights entails particular property duties which a superior authority is supposed to enforce: to refund the borrowed money at a fixed rate of interest within a specified period of time according to a standard defined by the creditor (Heinsohn and Steiger, 1996, 2000).⁸ These duties, in turn, bring about particular economic pressures that jointly constitute the specific formal (or economic) rationality (Weber, 1978 [1922]: 26, 85) prevailing in capitalist societies: the pressure for exponential growth imposed by the obligation to pay a rate of interest, cost pressure imposed by the obligation to ensure a rate of profit (to repay money with interest), and time pressure imposed by the obligation to

6 Like property rights, but unlike *de facto* possession rights, *de jure* possession rights can be enforced by independent law.

7 Often the term ownership is used as a synonym for property. As the term is ambiguous and means both property and possession, the present paper refers to either property or possession, but not to ownership. In his article, 'Ownership', which is 'a constant point of reference for those seeking to grapple with this highly elusive concept' (Harris, 1986: 143); Honoré (1961: 112) identified 11, what he termed, 'standard incidents of ownership' that 'may be regarded as necessary ingredients in the notion of ownership', although not 'individually necessary'. Accounting for Heinsohn und Steiger's core differentiation between possession and property, Honoré's standard incidents (1) 'The right to possess', (2) 'The right to use', (3) 'The right to manage' and (4) 'The right to the income' refer to possession rights, while standard incidents (5) 'The right to the capital', (6) 'The right to security', (7) 'The incident of transmissibility', (8) 'The incident of absence of term', (9) 'The prohibition of harmful use', (10) 'Liability to execution' and (11) the residuary character of ownership rather refer to property rights (Honoré, 1961: 112–128).

8 According to Steppacher, the fact that the monetary standard is defined by the creditor becomes particularly apparent in the case of international credits which are granted in hard western currency only. The debt forces upon indebted countries not only a continuous increase of exports in order to obtain foreign currency to finally settle their debt contracts, but also – as during the colonial period – the acceptance of the very possibility of the transfer of their property to foreigners (Steppacher, 1999: 29–30).

refund money plus interest within a stipulated period of time (Binswanger, 1991, 1994, Griethuysen, 2004, Steppacher, 1999).

Obligated to attend to their particular property duties, economic actors are necessarily compelled to remain solvent. With the money borrowed, they thus start a production of goods and services evaluated in monetary terms, which they have to sell on the market as commodities to earn the money they have to redeem with interest to the creditor (Steiger, 2006: 188).⁹ It is this ‘monetary production’ that distinguishes a commodity from a mere good or service (Heinsohn and Steiger, 2000: 94). Therefore, economic actors are not interested in a production of goods or services *per se*, or mere quantities, but in a production of values measured in money prices, or sums of money proper (Heinsohn and Steiger, 2000: 94).

In other words, as soon as economic actors engage their property titles as collateral in credit contracts and finance their economic activities with money proper advanced as capital, they are obliged to subject all and any transactions associated therewith (including social relations and natural resources) to a monetary evaluation. They have to value their real, that is, qualitatively different quantities with prices according to the standard defined by the creditor (Heinsohn and Steiger, 2000: 94; Kapp, 1983 [1970]: 49). The same holds true for goods and services produced in the course of such activities: they have to assess their value in monetary terms, which must at least be equal to the total of money advanced as capital plus interest (Heinsohn and Steiger, 2000: 94).

Constrained to refund the borrowed money at a fixed rate of interest, they are thus forced to ensure ‘a value of production, expressed in terms of quantity, time, money or price, which must be greater than the money proper advanced as capital. This demand [for a rate of interest], thus, necessitates a value surplus in the production of commodities – the *rate of profit*’ (Heinsohn and Steiger, 2000: 94). The interest-generated profit brings about the *economic growth* so characteristic for property-based societies or sectors – which, in addition, is exponential in nature as a result of the cumulative effect of compound interest (Griethuysen and Nuoffer, 2006; Steppacher, 1995).¹⁰ Therefore, capitalist societies or sectors not only push for economic growth, they also impose economic growth as a result of the particular property duties with which economic actors are forced to comply (Steppacher, 1999).

In other words, obliged to repay a higher amount than the total of money advanced as capital, economic actors are constrained to ensure that their

⁹ According to Heinsohn and Steiger, ‘the money-priced production of commodities necessarily leads to the commodity market. This market is an institution to obtain money proper because it is the only means with which the obligations of the debt contract to refund and to pay interest can be fulfilled’ (Heinsohn and Steiger, 2000: 45).

¹⁰ Compound interest is interest that is calculated based both on an original sum of money proper advanced as capital and on interest, which has previously been added to the sum.

economic activities are *profitable*, and, thus, to subject all and any economic transactions financed by credits to a *cost–benefit analysis* with a view to minimizing costs and/or to maximizing returns to guarantee finally the *rate of profit*. However, what constitutes a cost and a benefit, and for whom these costs and benefits are pertinent, is defined by the *status quo* institutional arrangements, which define who in a society has rights and liberties (to ignore certain costs imposed on others) and who, in turn, has duties and exposures (to bear such unwanted costs) (Bromley, 1989: 37, 212). In light of such cost–benefit analysis, it is safe to surmise that some economic actors currently with rights and liberties will attempt to influence those at the policy level in order to prevent them from changing the *status quo*, and, thus, from imposing on them the internalization of some costs they are currently able to ignore (Bromley, 1991). Others (those with duties and exposures), in turn, will advocate an alteration in the *status quo* in order to be able to foist some costs they are currently compelled to internalize on those presently with rights and liberties as discussed by Kapp in his theory of social costs (Kapp, 1950). In short, economic actors will make efforts to affect decision-making at the policy level in order to ensure the profitability of their economic activities.

As indicated earlier, forced to fulfil the obligations of the debt contract, economic actors start a money-priced production of commodities, which they have to sell on the market to obtain money proper to refund money with interest (Heinsohn and Steiger, 2000: 94). In striving for money proper (the only means by which to fulfil their obligations), unsurprisingly, all that matters is effective demand and not felt needs (e.g. Daly, 1991; Xenos, 1989). Accordingly, as shown throughout the history of economic thought, all needs that are not expressed in the commodity market via purchasing power, thus becoming manifest in effective demand, are neglected. Drawing on Marx, Xenos therefore concludes, thenceforward, ‘the poor [and future generations] have no needs since they do not have the capacity to turn need into demand: they have no money, the only language of need markets understand’ (Marx, 1975 [until 1848], Xenos, 1989: 50). Hence, forced to fulfil their obligations of the debt contract, it is safe to surmise that indebted actors relegate to the background all possible social considerations as well as all possible ecological considerations that run contrary to their solvency and profitability constraints.

Solvency and profitability constraints apply to all and any economic actors, including state- or community-based organizations, should they prove unable to finance their economic activities via revenues and/or taxes (state organizations) or via the monetary and non-monetary contributions of their members (common organizations) and, therefore, enter into credit relations (Hoffmann, 2005: 182). As with all and any economic actors engaged in credit contracts, they too are constrained to comply with the obligations of the debt contract and, thus, to subject all and any economic activities financed by credits to both a monetary evaluation and a cost–benefit analysis, as well as to relegate all and any social

and ecological considerations to the background in order to comply with their particular property duties.

Economic development and substantive rationality

Indeed, as detailed above, property-based societies and sectors enable economic development without previous savings of goods and resources by simply burdening and encumbering property titles (Heinsohn and Steiger, 1996, 2000). Entitled to the non-physical use of goods and resources, they direct their material reproduction (i.e. their production, distribution, consumption and accumulation) by means of *interest*, *money* and special *contracts* (particularly credit, sales, lease, and labour contracts) with independent courts of law enforcing their fulfilment (Heinsohn and Steiger, 2000: 68).

By contrast, possession-based societies or sectors, like most of today's developing and transitional countries, lack such genuine property titles (de Soto, 2000; Steiger, 2006). Therefore, 'burdening and encumbrance of property titles, interest and money, assets and liabilities, credits and banks, prices and markets are as much absent as the advantage seeking *homo oeconomicus*' (Heinsohn and Steiger, 2006; Steiger, 2006: 186). Constrained to a mere physical use of goods and resources, possession-based societies or sectors regulate their material reproduction collectively by reciprocity¹¹ (customary or tribal societies) and commands or plans (feudal or socialist societies) (Heinsohn and Steiger, 2000: 68). However, there are no independent courts of law where members can file a suit to enforce the rules of reciprocity or to execute their shares (Heinsohn and Steiger, 2000: 68). Contrary to property-based societies or sectors, economic development in possession-based societies or sectors therefore requires previous savings of goods and resources (Heinsohn and Steiger, 2006; Steiger, 2006: 186).

Hence, regulated by reciprocity and commands or plans, respectively, possession-based societies or sectors are forced to develop a social safety net for its members even though 'this can be achieved on a very low material level only' (Steiger, 2006: 187). On the contrary, regulated by interest, money and contracts, 'no social safety net can be developed from within property-based societies' or sectors (Heinsohn and Steiger, 2006; Steiger, 2006: 187). That is, as Steiger notes,

the institution of property does not develop a social security net out of itself. When introduced into merely possession-based [societies or sectors], it rather destroys the existing, albeit low-level, schemes of social security, which can only be guaranteed by governmental institutions (Steiger, 2006: 189).

¹¹ Reciprocity here does not neglect asymmetric power relations among members of customary or tribal societies.

In line with Heinsohn and Steiger's theory, De Soto emphasizes the importance of property for economic development, by revealing that the majority of people in developing countries are not poor because they lack resources but because they lack 'formal' property rights in resources (De Soto, 2000). Differentiating between informal and formal property (and not between possession and property), he considers underdevelopment as a result of the widespread existence of informal property, which precludes the poor from collateralizing credit. De Soto distinguishes six main beneficial effects of formal property: (i) fixing the economic potential of assets, (ii) integrating dispersed information into one system, (iii) making people accountable, (iv) making assets fungible, (v) networking people and (vi) protecting transactions (De Soto, 2000: 47–62). Testing empirically the importance of secure property rights for economic development, Kerekes and Williamson (2008: 301) 'uniformly confirm de Soto's hypothesis that secure property rights lead to increases in credit, through the collateral effect, and increases in both short-term and long-term capital formation. These effects in turn lead to economic growth.'

In reflecting on distinct types of rationality prevailing in different institutional contexts, Xenos distinguishes between contexts where particular institutions – especially markets – already exist and those where they do not (Xenos, 1989). Recalling that markets derive from property as a 'primary' social institution (Ciriacy-Wantrup and Bishop, 1985; Heinsohn and Steiger, 2000), Xenos submits that 'formal (or economic) rationality'¹² is born out of and thrives in contexts where markets (and thus property) already exist and 'substantive (or value) rationality' (Kapp, 1965; Weber, 1978 [1922]: 25, 85) in those where they do not (Xenos, 1989: 78–79). When markets expand into 'areas of social life whose constitutive principles had hitherto been found in custom, religion, tradition, etc.', however, Xenos observes a gradual shift from substantive (or value) rationality to formal (or economic) rationality 'as the effort to choose between different ends on substantive grounds is increasingly seen as irrational' (Xenos, 1989: 79).

Connecting Xenos' insights with Heinsohn and Steiger's core differentiation between possession and property enables one to associate different types of rationality with different institutional contexts, particularly formal (or economic) rationality with property-based societies (or sectors), and substantive (or value) rationality with possession-based societies (or sectors). It also allows for postulating a gradual shift from substantive rationality to economic rationality when property as a primary social institution – along with several secondary

12 According to Xenos, economic rationality can be distinguished from the broader category of instrumental rationality (Weber, 1978 [1968]: 26) insofar as it is one form of instrumental reasoning that can generate its own ends and is therefore potentially independent of substantive (or value) rationality (Weber, 1978 [1968]: 25) altogether (Xenos, 1989: 78–79).

institutions, including interest and money, credits and banks, prices and markets – is introduced into merely possession-based societies or sectors.

4. Possession and resource management regimes

The foregoing introduced Heinsohn and Steiger's core differentiation between possession and property, by placing particular emphasis on *de jure* property rights and duties regarding the non-physical use of goods and resources. The issue now is to focus on the physical use of goods and resources and the returns thereon (possession) by drawing a distinction between different resource management regimes. The latter are defined as structures of rights and duties characterizing the relationship of individuals and groups to one another with respect to a particular natural resource (Bromley, 1991: 22).

As indicated earlier, much literature on natural resource management, including the works of Ostrom (1990, 2007), Ciriacy-Wantrup and Bishop (1985) and Bromley (1989, 1991), applies the terms 'property' and 'property regimes' when dealing with 'possession' and 'possession regimes' only. To be consistent with Heinsohn and Steiger's core differentiation between possession and property, this section will interpret these terms as 'possession' and 'possession regimes', respectively, when referring to the mere physical use of goods and resources and the returns thereon.

Before distinguishing between different resource management regimes, however, some general misconceptions about 'the tragedy of the commons' as identified by Hardin (1993 [1968]) are addressed first.

Misconceptions about 'the tragedy of the commons'

As mentioned in the Introduction, there is hardly any concept or idea that has been as fundamentally misunderstood as that of the commons. Much of that confusion can be traced back to Hardin's allegory of the 'tragedy of the commons' (Hardin, 1993 [1968]), which, for some time, has had a remarkable currency among scholars and policy makers. The extensive literature on this alleged 'tragedy' presumes that if a resource were held 'in common' with more than one resource user having access to it, a self-interested 'rational' user would decide to increase his or her exploitation of the resource since he or she would receive the full benefits of the increase, but the costs would be spread among all users. The tragic result of each user thinking this way, however, would be the ruin of the commons, and thus of everyone using it. In applying the latter concept or idea to a great many of natural resources, scholars of new institutional economics arrive at the conclusion that it is common possession (in the terminology of Bromley: 'common property') that is largely to blame for the 'inevitability' of resource degradation (Bromley, 1991: 22). To overcome that 'tragedy', they propose two directions: either privatization or nationalization of the natural resource in question – two directions that are misleading when neglecting the

fundamental distinction between property and possession as revealed by Steiger (2006: 193–194).

Ever since the publication of Hardin's influential article 40 years ago, a great deal of theoretical and empirical research has been conducted to challenge the alleged 'tragedy of the commons'. It is now widely recognized that Hardin effectively confused a common possession regime with an open access regime (a free-for-all), thus attributing natural resource degradation that properly lies in a situation of open access to an assumed but non-existent regime of common possession (e.g. Bromley, 1991; Ciriacy-Wantrup and Bishop, 1985; Ostrom, 1990, 2007 – in the terminology of these authors: 'common property'). Research results rather indicate that resource degradation in common possession regimes is as likely as it is in private or state possession regimes. That is, in some instances a particular resource is degraded while in others it is not.

Distinct resource management regimes

'Property' as defined by Bromley, 'is more than the institutional arrangements defining who may use an object of value, who controls the use of that object, and who may receive the benefits from that object. Property is also the legal ability to impose costs on others' (Bromley, 1989: 210). Using the term 'property' when referring to possession only, Bromley suggests distinguishing between four different types of resource management regimes: (1) state property regimes, (2) private property regimes, (3) common property regimes and (4) open access (Bromley, 1991: 23). To allow for properly grasping natural resource management and account for Heinsohn and Steiger's core distinction between possession (i.e. possession rights) and property (i.e. possession rights and property rights), these terms should be referred to as (1) state possession regimes, (2) private possession regimes, (3) common possession regimes and (4) 'open access'.

In common possession regimes, control over access to/use of natural resources rests in the hands of a group of co-possessors. The members of that group are co-equal in their rights to the physical use of a particular resource (Ciriacy-Wantrup and Bishop, 1985: 26). However, equality does not mean here that co-equal members are necessarily equal with respect to the quantities (or other specifications) of the resource each member uses over a period of time, but does mean that more often than not their rights are not lost through non-use (Ciriacy-Wantrup and Bishop, 1985: 26).

Common possession has something very much in common with private possession, that is, the exclusion of all non-possessors by the group of co-equal members. Although those groups vary in nature, size and internal structure, they all constitute 'social units with definite membership and boundaries, with certain common interests, with at least some interactions among members, with some common cultural norms, and often their own endogenous authority systems' (Bromley, 1991: 26). Moreover, they all hold their own collective 'working rules' determining the behaviours of group members with respect to a particular

resource as well as their own ‘built-in structures of economic and non-economic incentives’, encouraging compliance with existing rules (Bromley, 1991: 27).

Indeed, compliance with working rules protected and reinforced by an authority system is a necessary condition of the viability of any possession regime. That is, whether private, state or common possession, all regimes require an authority system that ensures observation of rights and duties. If that system breaks down – for whatever reason – those regimes collapse and, for all practical purposes, private, state or common possession turns into open access. In other words, when a valuable natural resource is available to anyone, it is either because that resource has never before been incorporated into a regulated social system or because it has become an open access resource through institutional failures that have undermined former state, private or common possession regimes (Bromley, 1991: 30 – in Bromley’s terminology: ‘state, private, or common property regimes’).

Unlike state, private or common possession regimes, in an open access regime there is no possession (*res nullius*). That is, there are no socially recognized and sanctioned rights and duties defining the relationship between individuals and groups with respect to a particular resource. A natural resource under such conditions is subject to the rule ‘*first come, first served*’, that is, it belongs to the individual or group to first exercise effective control over it (Bromley, 1991: 30). However, benefits from this control are *ex ante* undefined since the gains to that individual or group are a function of the number of others who also make use of that resource, as well as the intensity of their use (Bromley, 1989: 204).

The fundamental difference between state, private and common possession regimes on the one hand and open access on the other is thus to be found in the four fundamental legal relations recognized by Hohfeld (1913, 1917): rights/duties and privileges/no rights. Accordingly, state, private and common possession regimes are situations of mutual rights and duties, while open access regimes are situations of mutual privileges and no rights. Unlike rights and duties that are socially recognized and sanctioned by a superior authority, privileges and no rights are not subject to direct legal enforcement. ‘Instead, they set the limits of the state’s activities in that they define the types of behaviour that are beyond the interest of the state’ (Bromley, 1991: 18) – here, as Commons notes, ‘free competition – the field of privileged damage exactly equal to the field of permitted liberty’ (Commons, 1995 [1924]: 99). They are thus statements of ‘no law’ (Bromley, 1991: 18) as regards access to and control over natural resources. Unsurprisingly, natural resources under open access regimes run the risk of being degraded (Ostrom, 2007: 242).

5. Property, possession and resource management regimes

The foregoing introduced Bromley’s distinction between state, private or common possession regimes, on the one hand, and open access on the other. The issue now is to link the latter distinction with Heinsohn and Steiger’s core

Figure 1. Different types of resource management regimes in relation to property and possession

	----- EXPLICIT RIGHTS TRANSFER -----				
	State	Private	Common	Open Access	
Property	1	3	5	7	IMPLICIT RIGHTS TRANSFER
Possession	2	4	6		

Source: Steppacher (2008: 349) (slightly modified)

differentiation between possession and property in order to better comprehend the meaning of implicit/explicit rights transfers (Bromley, 1991: 160, 161) involving shifts from one resource management regime to another.

Indeed, connecting the insights gained from institutional economics (e.g. Bromley) and property economics (e.g. Heinsohn and Steiger) enables one to distinguish between at least seven general types of resource management regimes: (1) state property regimes, (2) state possession regimes,¹³ (3) private property regimes, (4) private (or individual) possession regimes (Steiger, 2006: 190; Steppacher, 2008: 349),¹⁴ (5) common property regimes, (6) common possession regimes and (7) open access (see Figure 1). The different types of resource management regimes are ideal types in the sense of Max Weber (1978 [1922]), that is, analytical constructs that are not meant to correspond to all of the characteristics of any particular case.

Considering Figure 1, it becomes apparent that an explicit possession rights transfer, that is, the process of shifting the same basic structure of *de facto* possession rights and duties attached to a particular resource from one type of resource user to another (e.g. from an individual (4) to a group of co-equal possessors (6), or from a group of co-equal possessors (6) to the state (2), or

13 One example of state possession is that of late state socialism, where, according to Heinsohn and Steiger, collateral was an alien concept (Heinsohn and Steiger, 2000: 70). While terms like state property (people's property or 'Volkseigentum') suggested the existence of property, they merely applied to state possession. In fact, there were no titles which could be burdened, encumbered, sold or leased or which could be executed in case of default. Accordingly, land and cadastral registers – as far as they remained of the property-based society – have been negligently kept or completely abolished (Heinsohn and Steiger, 2002: 14). In contrast, in property-based societies, state property can be burdened, encumbered, sold or leased.

14 Just as in private property regimes, in private (or individual) possession regimes, control over access/use of natural resources rest in the hands of individuals or private companies.

from the state (2) to an individual (4), or vice versa) implies an alteration in the nominal structure, but not in the real structure of rights and duties (Bromley, 1989: 160). The same holds true for explicit property rights transfers when shifting the same basic structure of *de jure* property rights and duties among different types of resource users.

In contrast, adding *de jure* property titles to *de facto* possession rights and duties attached to a particular resource (e.g. turning state possession (2) into state property (1), private possession (or individual possession, respectively) (4) into private property (3), or common possession (6) into common property (5)) represents an implicit rights transfer (Bromley, 1991: 161), that is, a process of changing the real structure, but not the nominal structure of rights and duties. Indeed, that change in legal entitlements involves an alteration in the use to which the resource can be put to: as soon as property titles are created by a legal act, it entitles the property rights holders to the immaterial (non-physical) use of that resource: to burden and to encumber property titles as collateral in credit relations (Heinsohn and Steiger, 2006; Steiger, 2006: 186). It is precisely the creation of property titles through an appropriate implementation of property law for each and every member of society that first triggers economic development. Put somewhat differently, it is the introduction of property in general, whether state, private or common property, and not – as scholars of the theory of property rights (or new institutional economics) assume – the introduction of private property in particular that results in changed microeconomic behaviours of economic actors which give rise to the economic development lacking so far in developing and transitional countries (Steiger, 2006). Therefore, as Steiger notes, ‘recommendations for development programs based on new institutional economists’ theory of property rights, favouring privatization, are misleading’ (Steiger, 2006: 202).

Referring to the commons, Steppacher suggests that, in most instances, commons are possession regimes (6) rather than property regimes (5) as they lack genuine property titles to be used as collateral in credit relations (Steppacher, 2008: 349).¹⁵ Considering Figure 1, it becomes evident that a shift from common possession (6) to private property (privatization) (3) or to state property (nationalization) (1) – as suggested by scholars to overcome the alleged ‘tragedy of the commons’ – is more than an explicit rights transfer. Indeed, it is first and foremost an implicit rights transfer, that is, a process of turning *de facto* possession into *de jure* possession and of adding a bundle of *de jure* property rights and duties in this process.

However, adding a bundle of *de jure* property rights and duties in this process involves not only a change in the use to which the resource can be put, but also a change in the point of view from which to judge the outcomes of economic

¹⁵ For further examples on common possession regimes and the introduction of property rights into possession-based societies, please refer to Steppacher (2008: 332–335 and 348–349).

activities: as soon as economic actors (resource users) engage their property titles as collateral in credit contracts and thus finance their economic activities with money advanced as capital, economic rationality gradually becomes dominant over substantive (or value) rationality. The gradual shift from substantive (or value) to economic rationality holds particularly true against the background of particular economic pressures (i.e. pressure for economic growth, cost pressure and time pressure) prevailing in property-based societies or sectors.

Finally, Figure 1 reveals that privatization is more than what Harvey (2003) recently conceptualized in terms of ‘accumulation by dispossession’ including the ‘conversion of various forms of property rights (common, collective, state, etc.) into exclusive private property rights’ (Harvey, 2003: 74). When dealing with common possession (6) or state possession (2), privatization implies not only the conversion of (common, state) property (5, 1) into exclusive private property (3). First and foremost, it involves the addition of *de jure* property titles to *de facto* possession rights and duties, thereby changing the legal entitlements running with the resource transferred. Indeed, it is this implicit rights transfer that has traditionally been neglected by both proponents and opponents of privatization by focusing on explicit rights transfers only.

Gerber and Veuthey (2011) shed light on distinct types of possession and property regimes that are at the origin of socio-environmental conflicts over industrial tree plantations between local Bulu communities and commercial planters in Cameroon. Providing a historical outline of property in Cameroon, the authors state that prior to colonization, property as a primary social institution did not exist in the Bulu society. As in many other forest-dependent societies, local Bulu communities manage and control their agro-forests as *common possession*, where several lineages coexist in a same village and share a wider forest area for hunting and collecting plants. *Common possession* includes *lineage possession*, based on the genealogical rights of a lineage over the agro-forest as well as *individual possession*, rooted in the axe rights within a given lineage-owned area (Gerber and Veuthey, 2011: 834). The various types of (common, individual and lineage) possession regimes are subject to the cyclic nature of shifting agriculture. When a forest is transformed into a field, lineage or common possession turns into individual possession. After 10 years, when the field is reconverted into a secondary forest, individual possession disappears and the field becomes available to other lineage members or, if not – with enough time – to other community members or future generations.

With the introduction of property imposed by European colonization during the 19th and 20th centuries, Gerber and Veuthey (2011) observe the transformation of Cameroon’s (agro)forests, managed and controlled as common possession, into industrial tree plantations, that is, large centrally administered agricultural estates organized to supply external markets with generally one single crop (Pryor, 1982) – in the case of Cameroon mainly cacao and rubber trees, the two main colonial products until the 1950s (Etoga Eily,

1971, cited in Gerber and Veuthey, 2011: 836). The shift towards industrial tree plantations, managed and controlled as either private or state property, often implied the expulsion of local communities from their lands and the destruction of what they consider their forests (Gerber and Veuthey, 2011: 839). Provided with 99-year state concessions enabling concession holders to encumber their concessions (similar to property titles) as collateral in credit contracts, commercial planters, such as the HEVECAM (Hévéa Cameroon) – one of Africa's largest rubber tree monocultures in Southern Cameroon – often engage in credit contracts to obtain money as capital. As soon as they enter into credit relations, they face specific economic pressures (pressure for economic growth, cost pressure and time pressure) imposed by the obligation to refund the borrowed money at a fixed rate of interest within a specified period of time (Gerber and Veuthey, 2011). They are thus obliged to start a money-priced production of raw materials – in the case of HEVECAM natural rubber – which they have to sell on the market. Forced to repay a higher amount than the total of money advanced as capital, industrialization – along with a drastic simplification of the ecosystem –

is very much appropriate because it increases productivity (economies of scale, mechanization) and therefore allows for profits in a competitive international market context. However, industrialization always requires costly technologies and therefore important investments mainly obtained through credit. (...) Unsurprisingly, access to favourable credit was explicitly a key preoccupation for HEVECAM's chief executive when he explained in 2002 that like all agroindustrial firms, GMG crucially requires adequate financing tools from banks and semipublic financial organizations (Gerber and Veuthey, 2011: 843–844).

According to Gerber and Veuthey (2011), it is 'the imperatives of credit relations – defining what is broadly referred to as "economic rationality" – [that] are at the origin of the conflict' between local communities and commercial planters, such as HEVECAM. The imperatives impose economic growth to the detriment of social and ecological considerations such as the preservation of remaining (agro)forests managed and controlled as common possession. Pointing up to these imperatives, one villager resumes: '[HEVECAM] invaded our lands. They came and installed fences and started to evaluate land in monetary terms' (Gerber and Veuthey, 2011: 839). The observation made by the villager summarizes perfectly the example given by Heinsohn and Steiger (2000: 70) to illustrate the difference between the physical use of a field (possession) and the activation of a property title. According to Heinsohn and Steiger

in all [...] societal types fields are possessionally tilled to yield a physical return. Business operations, however, are not performed with the soil, but with the fence around the field. The fence, of course, does not stand for the posts and wiring of the enclosure, which may be utilized in all [...] types of

society to demarcate the rights to possessional uses. In our picture the fence stands for the property title to the field. Thus, a field can be possessional or physically harvested and non-physically encumbered at the same time. Only the latter operation belongs to a truly economic realm of business. However, possessional use within a property-based society differs dramatically from merely possession-based societies because it may have to serve the claims burdenable on the property titles. Whereas in mere possession-based societies, possessed resources are only controlled, in property-based societies they are put to an economic use. (Heinsohn and Steiger, 2000: 70–71)

Unlike commercial planters that subject their tree plantations to an economic use as pointed out by Gerber and Veuthey (2011), local communities (as long as they are not indebted) are not subject to the same constraints of economic growth imposed by the imperatives of credit relations: their production tends to remain relatively stable within a multifunctional environment (Gerber and Veuthey, 2011: 844). Moreover, due to the cyclic nature of shifting agriculture local communities are able to regenerate their (agro)forests and – with enough time – distribute their land among their members (Gerber and Veuthey, 2011: 834). Contrary to commercial planters that manage and control their industrial tree plantations as private or state property, enabling them to disconnect from the physical reality of their resources and to make them live a disembedded life as capital by entering into credit relations (Soto, 2000), they remain firmly embedded in the physical reality of their resources. Guided by substantive (or value) rationality (or by an eco-social rationale as pointed out by Gerber and Veuthey, 2011), they are obliged to consider the given social and ecological conditions of their multifunctional environment to sustain their livelihoods.

In fact, it is the shift from substantive rationality (eco-social rationale) to economic rationality through the introduction of property as a primary social institution – along with other secondary institutions such as credits and markets into Cameroon's mere possession-based society that is at the origin of the conflict between commercial planters and local communities. In other words, it is the clash between possession-based resource management regimes on the one hand and property-based resource management regimes on the other that is at the roots of the conflict. The example of that conflict unveils the benefits from integrating the insights gained from institutional economics (i.e. the distinction between state, private and common possession regimes on the one hand and open access on the other) and property economics (i.e. the differentiation between possession and property) into one analytical framework. It underlines the crucial importance of the distinction between possession and property and its implication for natural resource management.

6. Conclusions

This article has conceptualized property as a primary social institution, by arguing that property is not a physical object but rather defines a triadic social

relation, involving rights holders, duty bearers and something of value. It has suggested distinguishing property from possession, by defining possession as a bundle of material rights (and duties) regarding the physical use of goods and resources. Property, in contrast, includes both a bundle of material rights (and duties), that is, possession rights (and duties) and a bundle of immaterial rights (and duties), that is, property rights and (duties) regarding the non-physical use of goods and resources. Brought about by a legal act that transforms *de facto* possession into *de jure* possession and adds a bundle of immaterial *de jure* property rights (and duties) in this process, it carries a second economic potential contained in the security of a legal property title, namely to enter into credit relations. It is this second economic potential that has traditionally been neglected in mainstream economics and that makes property – on the condition that it is titled, registered, protected and enforced – the core institution of capitalist societies.

Linking the distinction between property and possession with the differentiation between state, private and common possession regimes allows for distinguishing at least seven general types of resource management regimes, including (1) state property, (2) state possession, (3) private property, (4) private possession also referred to as individual possession, (5) common property, (6) common possession and (7) open access. It also allows for comprehending the meaning of implicit/explicit rights transfers, involving shifts from one resource management regime to another. It thus becomes apparent that it is precisely the creation of property titles, that is, the introduction of state, private or common property in general and *not* – as proponents of privatization suggests – the introduction of private property in particular that first triggers economic development lacking in many developing and transitional countries. Again, it is the introduction of property in general, whether state, private or common property, and *not* – as opponents of privatization assume – the introduction of private property in general that entails a more fundamental restructuring of contemporary nature–society relations by entitling state, private or common property rights holders not only to the physical but also to the non-physical use of natural resources. Indeed, it is the creation of property titles and their addition to *de facto* possession rights and (duties) that has traditionally been neglected by both proponents and opponents of privatization despite the fact that it is property in general and *not* private property in particular that constitutes *the* founding element of capitalism.

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